User's Guide

Wireless N Internet Camera
Wireless N Day/Night Internet Camera

TV-IP551W/ TV-IP551WI

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Product Overview

TV-IP551W

TV-IP551WI

Package Contents

In addition to your camera, the package includes:

- Muti-Language Quick Installation Guide
- CD-ROM (Utility & User's Guide)
- Network cable (1.5m / 5ft)
- Power adapter (5V DC, 1.2A)

If any package contents are missing or damaged, please contact the retail store, online retailer, or reseller/distributor that the item was purchased.

Features

TV-IP551W

The Wireless N Internet Camera, model TV- IP551W, transmits real-time video over the Internet. Wireless n technology provides unsurpassed wireless coverage and improved streaming video quality. Add this camera to your wireless network at the touch of a button with Wi-Fi Protected Setup (WPS).

Record 640 x 480 (VGA) video at up to 20 frames per second (fps). Manage up to 32 TRENDnet cameras with the included complimentary camera management software. Advanced features include adjustable motion detection recording areas, email alerts, scheduled recording sessions, one-way audio, an adjustable lens, and four times digital zoom. A wall/ceiling mounting kit is included and the camera's off white housing blends into most environments.

TV-IP551WI

The Wireless N Day/Night Internet Camera, model TV- IP551WI, transmits real-time video over the Internet. Record crisp video in complete darkness for distances of up to 7.5 meters. Wireless n technology provides unsurpassed wireless coverage and improved streaming video quality. Add this camera to your wireless network at the touch of a button with Wi-Fi Protected Setup (WPS).

Record 640 x 480 (VGA) video at up to 20 frames per second (fps). Manage up to 32 TRENDnet cameras with the included complimentary camera management software. Advanced features include adjustable motion detection recording areas, email alerts, scheduled recording sessions, one-way audio, an adjustable lens, and four times digital zoom. A wall/ceiling mounting kit is included and the camera's off white housing blends into most environments.

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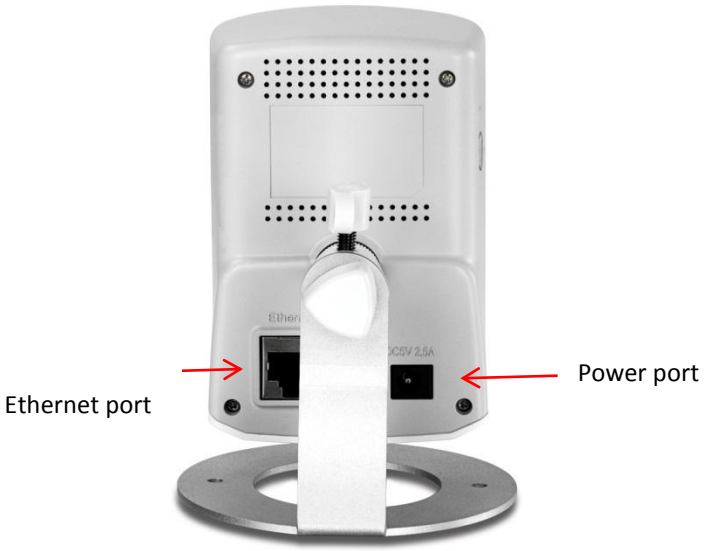
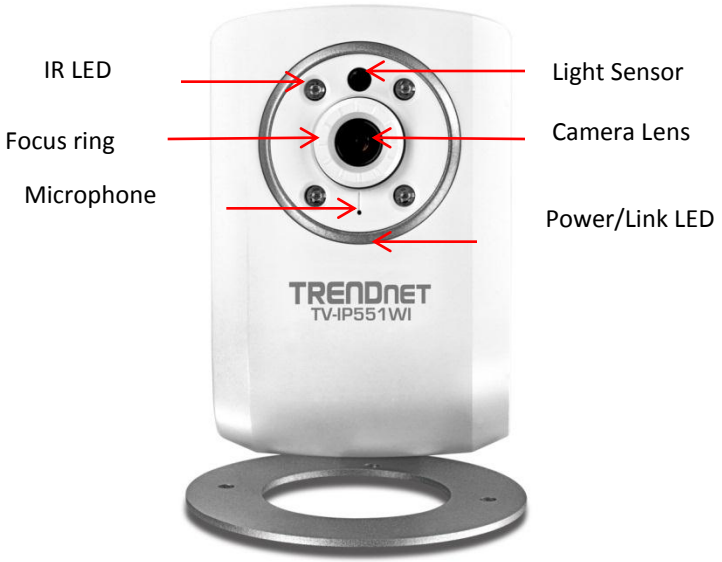
Product Hardware Features

Rear Panel View



- **LAN Port** – Connect Ethernet cables to your wired network devices.
- **Power Port** – Connect the included power adapter from your camera to an available power outlet.
  Note: *Use only the adapter that came with your camera.*

Front Panel View



- **IR LED** – Built-in 4 IR LED for night vision uses. (for TV-IP551WI)
- **Light Sensor** – Detects the light source to turn IR on or off.
- **Focus ring** – turn to adjust the focus of the camera.
- **Microphone** – Built-in microphone for audio can be turn on or off.
- **Power** - This LED indicator is solid blue when your camera is powered on. Otherwise if this LED indicator is off, there is no power to your camera.
- **Link** – This LED indicator is blinking orange when there is connection/data to your camera.

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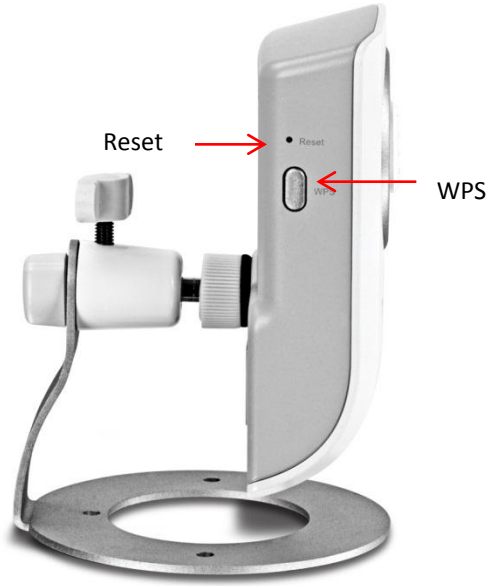
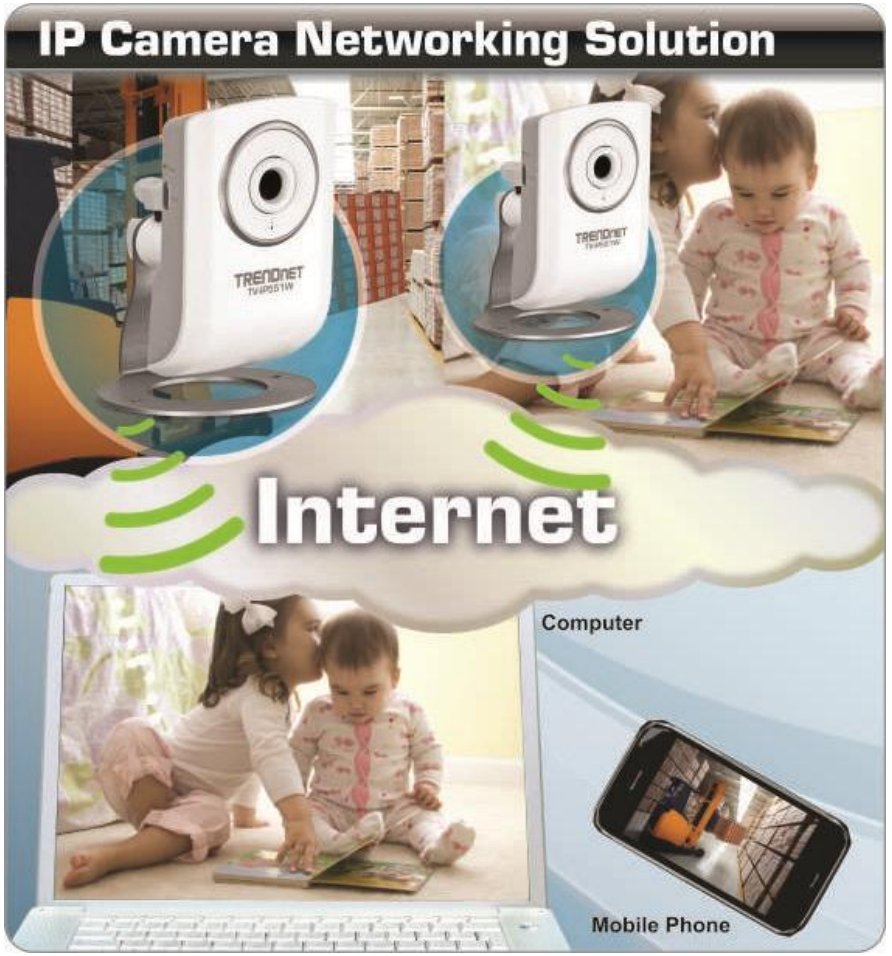
Side Panel View



- **Reset Button** – Use an item such as a paperclip to push and hold this button for 3 seconds and release to reset your camera to its factory defaults.
- **WPS (Wi-Fi Protected Setup)** – Push and hold this button for 3 seconds to activate WPS. The button LED is blinking green when WPS is activated.

Application Diagram



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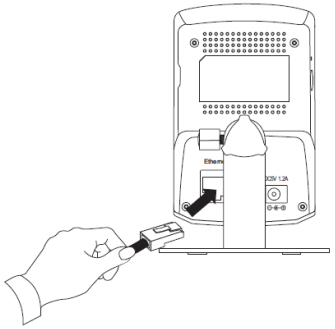
Installation

Wired Connection

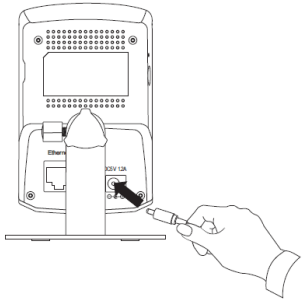
1. Connect the Ethernet Cable

   If you intend to use the network camera as a wired device, connect one end of the included Ethernet cable into the **Ethernet** port on the rear panel of the camera and connect the other end to an available port on your network. If you prefer to use the camera on a wireless network, see below for instructions on connecting the power adapter.



2. Attach the Power Supply

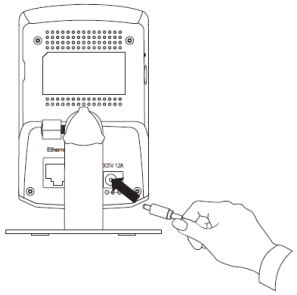
   Attach the included power supply to the **DC 5V 1.2A** receptor on the rear panel of the camera and then connect it to a wall outlet or power strip. A blue LED will light up under the lens indicating that the camera has power.



WPS Connection

An alternative method of connecting your camera to your network is by using WPS. WPS is a quick, simple and secure method of adding devices to a network. If you have a router which supports WPS follow the steps below, otherwise, please use the wired mode of setting up the camera.

1. Attach the Power Supply



2. Press the WPS button on your wireless device then press the WPS button on the camera.

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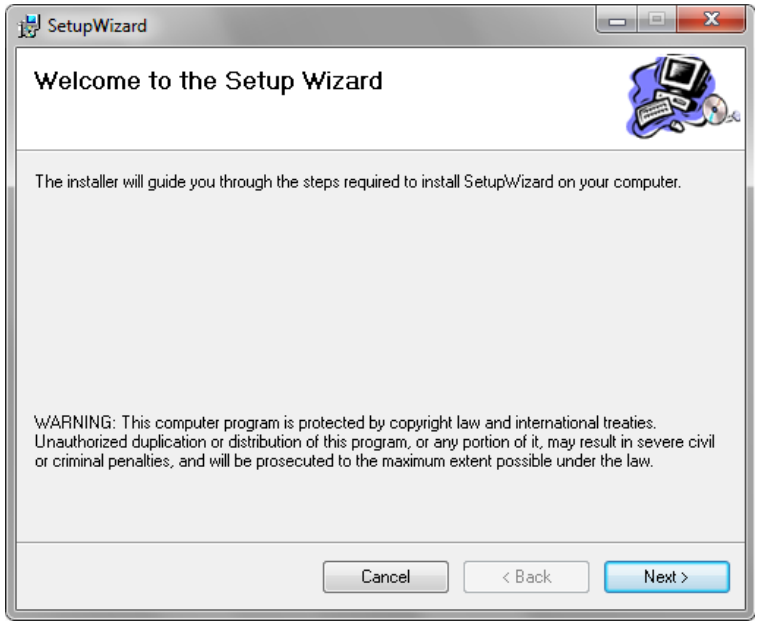
Starting the Setup Wizard

Insert the included CD-ROM into your CD/DVD drive. The Install Wizard program will run automatically.

Note: If the Install Wizard does not run, you may have autorun disabled on your machine. In this case, browse to the CD drive and run **InstallWizard.exe** to begin the installation wizard.

Begin by selecting **Setup Wizard** and follow the on-screen steps to continue the installation.


SetupWizard
Welcome to the Setup Wizard
The installer will guide you through the steps required to install SetupWizard on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >

When the installation of the Setup Wizard is complete, run the Setup Wizard:

1. Click **Start > Programs > TRENDnet > SetupWizard > SetupWizard.** The TRENDnet Setup Wizard appears.

2. Connect an RJ-45 cable from a switch/router to the Ethernet port on the back of the camera and connect the AC power adapter to the camera. Click Next to proceed.

TRENDnet
Setup Wizard
Install Your Camera
Please connect a RJ-45 network cable from a Switch/Router to the LAN port of the camera and connect the AC Power Adapter to the camera.
Next
Exit
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3. From the list of cameras that appears, select the camera you wish to configure and click **Next** to continue. If your camera is not listed, ensure that it is connected to both power and the network and click Re-Scan to re-scan the network for your camera.

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4. Login to your camera by entering the ID and Password. By default, both the ID and Password are set to **admin**. Click Next to continue.

TRENDnet
Setup Wizard
Authentication
Please enter ID and password to verify authorization for setting up camera. Click button "Next" to check. Or click button "Previous" to select another camera.
ID
admin
Password
(Default : admin)
The Wizard will help you to discover if there is a DHCP server in your network environment, so please click the "Unblock" button if you see a Windows Security Alert dialog.
Previous
Next
Exit
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5. Enter a name for the camera in the **Camera Name** field. The name will be used to identify your camera on the network. Enter the correct time for the camera for the time zone it is in. If your camera is in the same time zone as the computer you are using, click the Copy Local Time icon to copy the local time to the camera. Click Next to continue.

TRENDnet
Setup Wizard
Other Settings
You can have a name for the camera. And you can also adjust the camera's clock by input the current time on "Camera time" option. Or click "Copy Local Time" to synchronize the camera time with your PC. Click button "Next" to continue setting up.
Camera Name
TV-IP551W
Camera Time
2011/01/01
00:21:46
Copy Local Time
Previous
Next
Exit
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6. It is strongly recommended that you change your password to secure the camera from being accessed by others. Check the **Change Password** box and enter the new password in both password fields to confirm the new password. Click Next to continue.

TRENDnet
Setup Wizard
Change Password
We strongly suggest that you change the camera's password to secure your camera from being accessed by others. If you do not want to change the default password, please click "Next" button to skip this step.
Change Password
New Password
Confirm Password
Previous
Next
Exit
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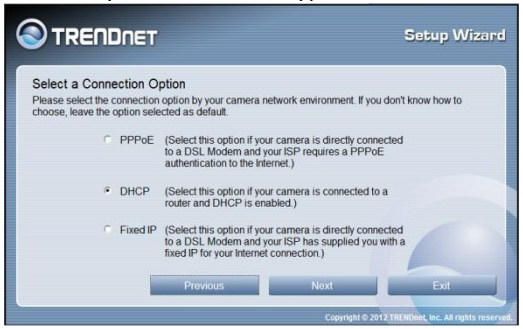
7. Select a connection option: (example uses DHCP connection type)

PPPoE: Select this option if your camera is directly connected to a DSL modem and your ISP requires a PPPoE authentication to the Internet.
DHCP: Select this option if your camera is connected to a router and DHCP is enabled.
Fixed IP: Select this option if your camera is directly connected to a DSL modem and your ISP has supplied you with a fixed IP for your Internet connection.

Select the radio button for your connection type and click Next to continue.


TRENDnet
Setup Wizard
Select a Connection Option
Please select the connection option by your camera network environment. If you don't know how to choose, leave the option selected as default.
PPPoE (Select this option if your camera is directly connected to a DSL Modem and your ISP requires a PPPoE authentication to the Internet.)
DHCP (Select this option if your camera is connected to a router and DHCP is enabled.)
Fixed IP (Select this option if your camera is directly connected to a DSL Modem and your ISP has supplied you with a fixed IP for your Internet connection.)
Previous
Next
Exit
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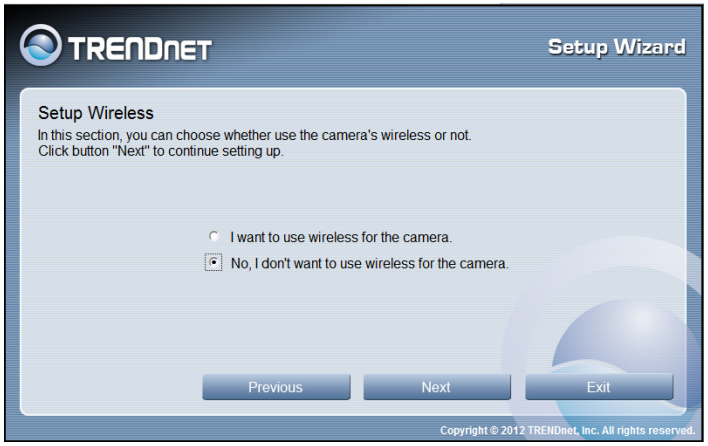
8. Select whether you want to use the camera over an wireless connection or on a wired connection. Click No, I don't want to use wireless for the camera. Then click **Next** to continue. (skip to step 12 for wireless configuration)


TRENDnet
Setup Wizard
Setup Wireless
In this section, you can choose whether use the camera's wireless or not.
Click button "Next" to continue setting up.
I want to use wireless for the camera.
No, I don't want to use wireless for the camera.
Previous
Next
Exit
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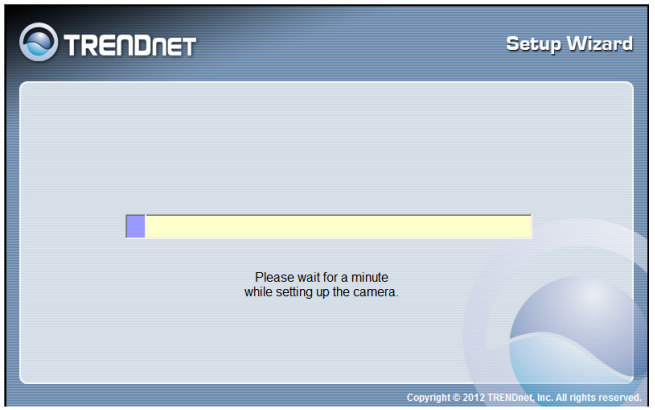
9. A summary screen of the settings you have chosen appears. Click Next to continue.

10. After the Setup Wizard configures the camera, the wizard starts to setup process.


TRENDnet
Setup Wizard
Please wait for a minute
while setting up the camera.
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11. When the Setup Wizard has finished, the configuration is complete and the following screen appears:

You are now ready to use your camera.

Click the IP address link or the link

button to access the camera's advanced configuration page.

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12. When selecting the wireless setup choose "I want to use wireless for the camera, click **Next** to continue.

TRENDnet
Setup Wizard
Setup Wireless
In this section, you can choose whether use the camera's wireless or not.
Click button "Next" to continue setting up.
I want to use wireless for the camera.
No, I don't want to use wireless for the camera.
Previous
Next
Exit
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Wireless Connection

- Find the access point (AP) or wireless router you wish to connect to from the **Available AP** drop down menu.
- In most cases you should leave the **Channel** set to Auto as the AP will determine the channel of operation.
- Select the type of **authentication** and **encryption** required by the access point and enter the **Key** required to connect.

13. A summary screen of the settings you have chosen appears. Click Next to continue.

14. After the Setup Wizard configures the camera, a screen prompting you for the connection method appears.

TRENDnet
Setup Wizard
Linking Mode
In this section, you can choose using wired or wireless to connect to the camera. Click button "Next" to continue setting up.
By using wired
By using wireless
Next
Exit
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Check the radio button for the method of connection you want to use for your camera and click **Next** to continue.

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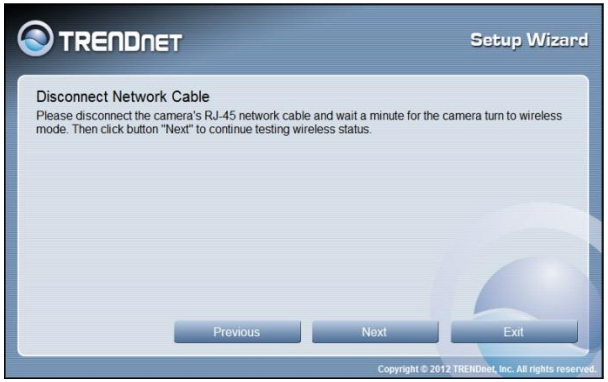
15. Connecting over wireless
    Disconnect the Ethernet cable from the camera and wait for 1 minute for the camera to turn to wireless mode then click Next to continue.


TRENDnet
Setup Wizard
Disconnect Network Cable
Please disconnect the camera's RJ-45 network cable and wait a minute for the camera turn to wireless mode. Then click button "Next" to continue testing wireless status.
Previous
Next
Exit
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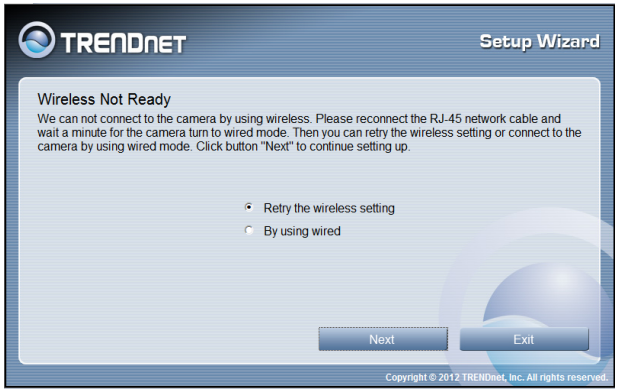
When the Setup Wizard has finished, the configuration is complete. If there is no wireless connection found, the following screen will appear:


TRENDnet
Setup Wizard
Wireless Not Ready
We can not connect to the camera by using wireless. Please reconnect the RJ-45 network cable and wait a minute for the camera turn to wired mode. Then you can retry the wireless setting or connect to the camera by using wired mode. Click button "Next" to continue setting up.
Retry the wireless setting
By using wired
Next
Exit
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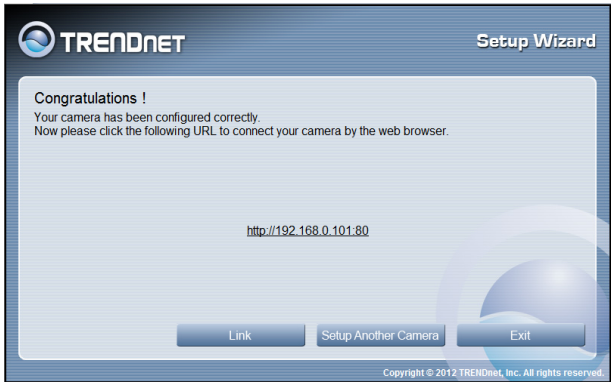
When the Setup Wizard has finished, the configuration is complete. If there is a wireless connection found, the following screen will appear:



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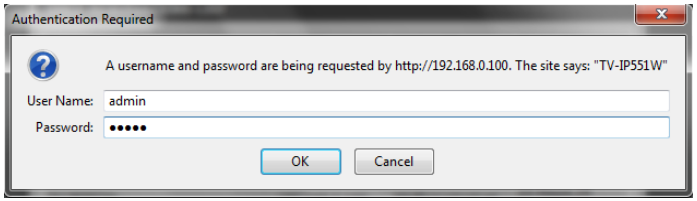
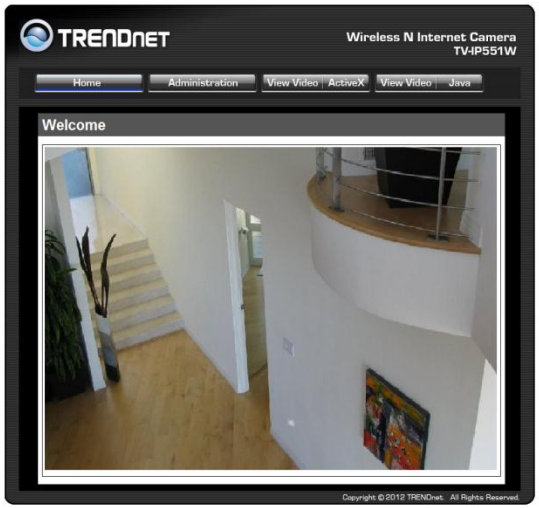
Configuration

After completing the Setup Wizard, you are ready to use your camera. The camera's built-in Web configuration utility is designed to allow you to easily access and configure your TV-IP551W or TV-IP551WI camera. Open a web browser such as Internet Explorer® and enter the IP address of your camera. To log in, use the User name **admin** and the password you created in the Setup Wizard. If you did not create a password, the default password is **admin**. After entering your password, click **OK**.



The home page for the TV-IP551W or TV-IP551WI appears.

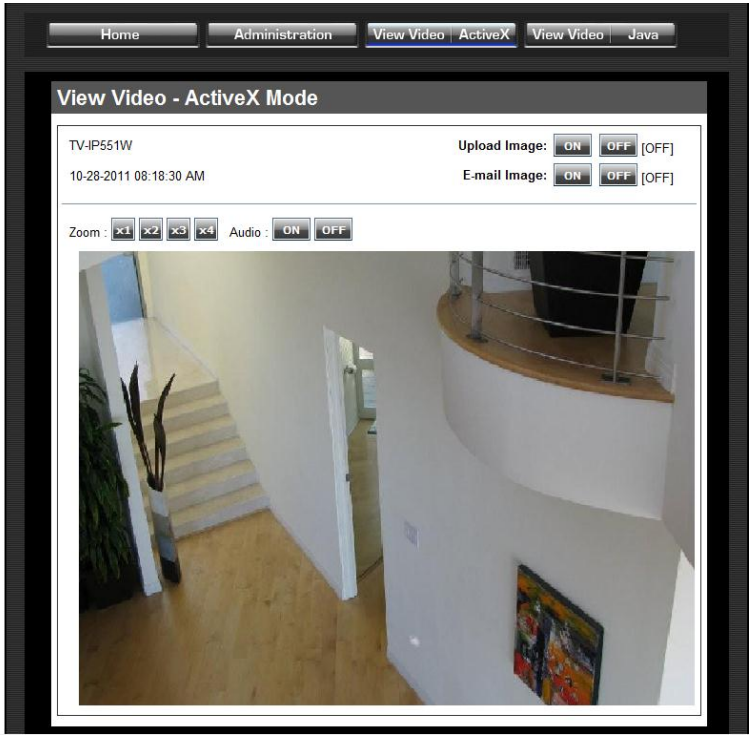


Viewing Video

Click **VIEW VIDEO | ACTIVEX** or **VIEW VIDEO | JAVA** to begin viewing live video from your camera.

VIEW VIDEO | ACTIVEX

Windows users who do not have Java installed can choose ActiveX mode to view video. Internet Explorer will prompt you to install ActiveX when you click on the **VIEW VIDEO | ACTIVEX** link. Mac users must use the Java mode to view video.



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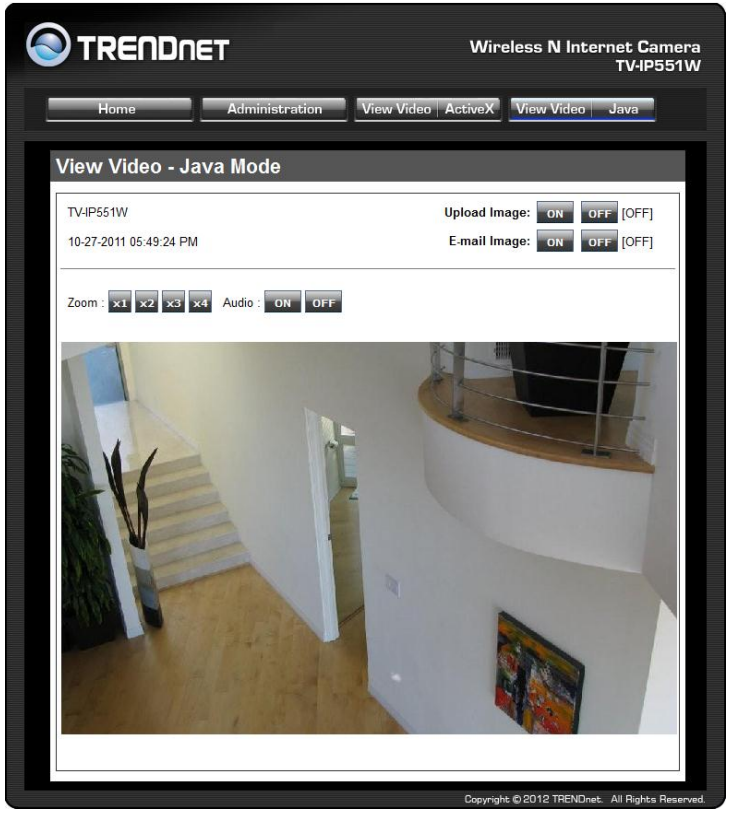
VIEW VIDEO | JAVA

Please make sure that you have the latest version of Java installed on your machine to ensure proper operation when viewing video in Java mode. The Java application can be downloaded from Sun's website free of charge (http://www.java.com)

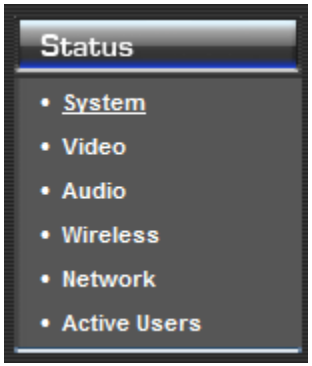


Viewing Camera Settings

To view camera settings:

1. Login to the camera
2. Click **ADMINISTRATION.** The system status screen appears.

From the menu on the left side of the screen, select an option under the **STATUS** heading.



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System

This screen shows the Camera Name, Location, Model, Firmware Version, MAC Address, IP Address, Ethernet Link Status, Speed and Duplex type.

Video

This screen shows the details of the video capture settings including Video Resolution, Compression Rate, Frame Rate, Frame Size and Light Frequency.

Audio

This screen shows whether audio is enabled and the volume level of the audio.

Wireless

This screen shows the connection mode, link status, SSID name, channel and encryption status.

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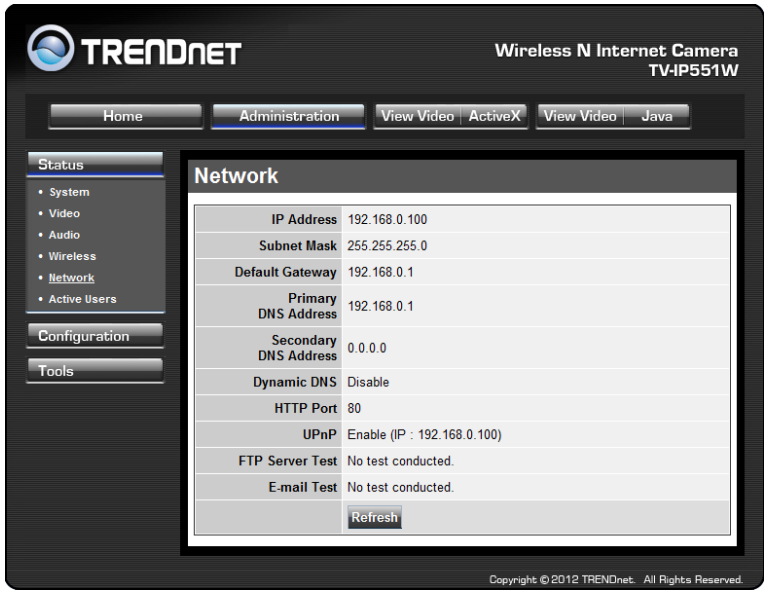
Network

This screen shows various network statistics related to your camera including IP Address, Subnet Mask and Default Gateway.



Active Users

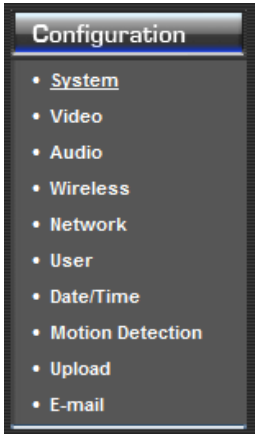
This screen shows whether there are any active users logged on to the camera viewing live video.

Configuring Camera Settings

The TV-IP551W allows you to make configuration changes from anywhere by connecting to the camera using a standard web browser.

To configure camera settings:

1. Login to the camera as described in the section **Using the web-based configuration interface.**
2. Click **ADMINISTRATION.** The system status screen appears.
3. Click **CONFIGURATION** from the menu on the left side of the screen. The System configuration screen is displayed. You can then click on any of the menu items on the left of the screen under the Configuration menu to modify settings.



System

- **Camera Name:** This is the name used to identify your camera on your network.
- **Location:** You can enter a description of the place where the camera is.
- **Admin:** In this field you can change the administrator user name and password. (max. password length is 8 characters)
- **LED Control:** Setting this to **Normal** will display the lights on the front of the camera indicating power and network activity. Setting this to **OFF** will turn off both lights on the front of the camera.

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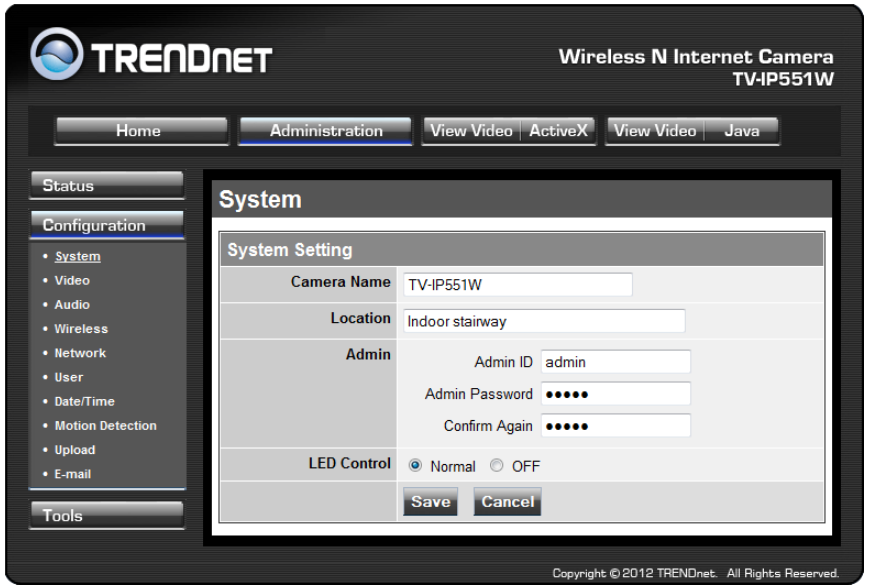
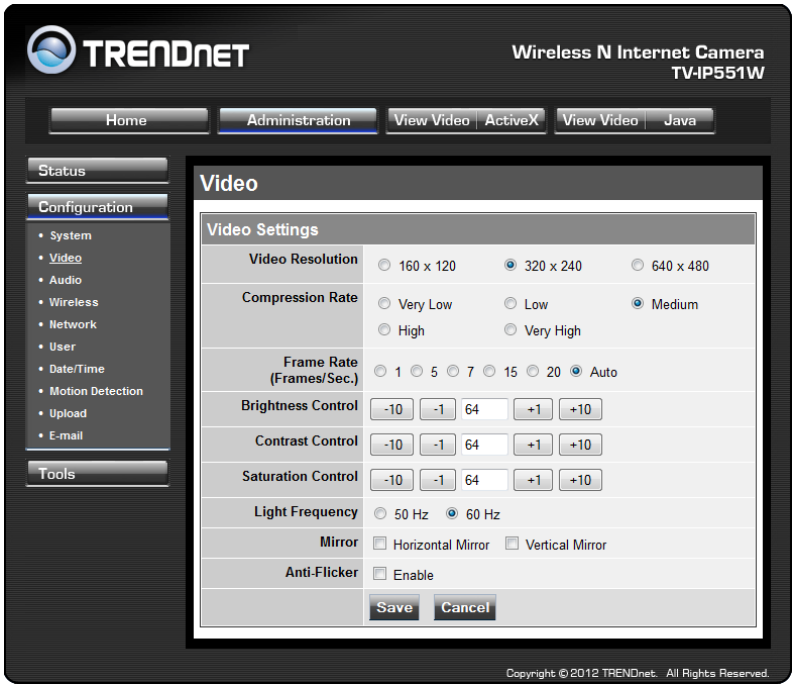


Video

- **Video Resolution:** Select from one of the three resolutions. Higher values provide better quality but at the expense of higher bandwidth requirements on your network or internet connection.
- **Compression Rate:** Select a compression rate. Higher rates of compression will reduce network load at the expense of lower image quality.
- **Frame Rate (Frames/Sec.):** Select the number of frames per second you would like for your video. Higher rates provide smoother video but require more bandwidth on your network or internet connection.
- **Brightness Control:** Allows you to control the brightness level. Enter a value between 1 and 128.
- **Contrast Control:** Allows you to control the contrast level. Enter a value between 1 and 128.
- **Saturation Control:** Allows you to control the saturation level. Enter a value between 1 and 128.
- **Light Frequency:** Select the correct frequency (50Hz/60Hz) to reduce the amount of flicker.
- **Mirror:** Choose whether to mirror the image horizontally or vertically.
- **Anti-Flicker:** Check the box to enable anti-flicker.



Audio

- **Audio:** Choose whether to **Enable** or **Disable** the camera audio feed.
- **Volume:** Select the volume percentage level.

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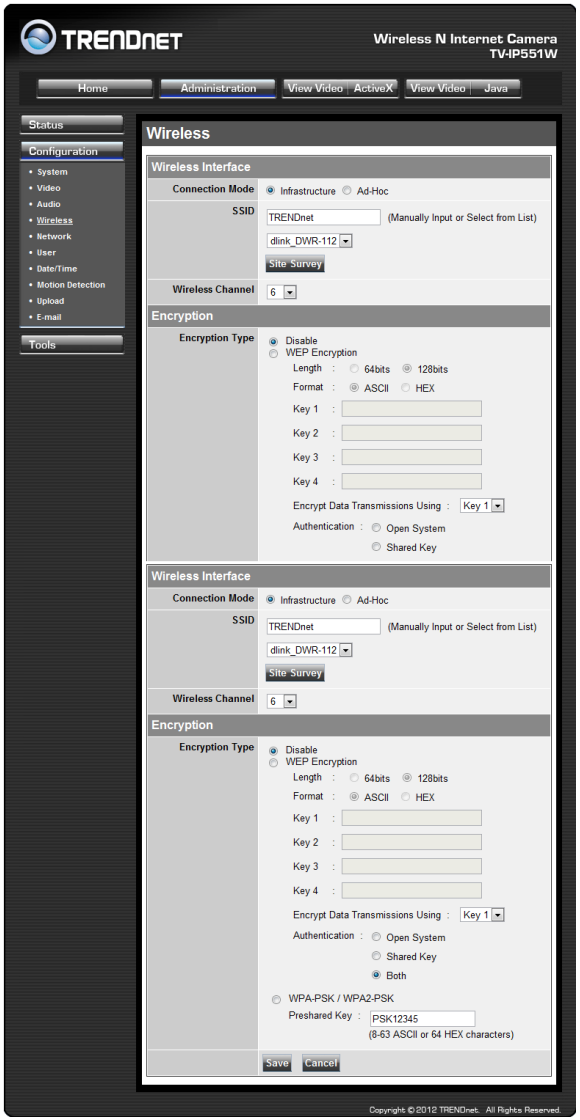
Wireless

- **Connection Mode: Infrastructure** is a wireless connection using an access point as a transmission point of all wireless devices. **Ad-Hoc** is a wireless connection used without an access point, where your TV-IP551W or TV-IP551WI is directly connected to your PC. This is done using the on-board wireless adapter on the TV-IP551W or TV-IP551WI connected to a wireless adapter on the PC.
- **SSID:** Service Set Identifier. This is an identifier for your network. Manually enter the SSID of your wireless network or select it from the drop down menu. You can click **Site Survey** to see a list of wireless networks within range and further details of their settings.
- **Wireless Channel:** When using Infrastructure mode, the channel is specified by the access point and the channel will not be selectable on this menu. When using Ad-Hoc mode, you can specify on which channel you want to communicate with the camera.
- **Encryption Type:** It is highly recommended that you encrypt the connection. In Infrastructure mode, select an encryption type and enter details where applicable as you have specified on the access point. If you intend to use Ad-Hoc mode, you can specify here the encryption type and preshared key that you want to use to connect from the PC.



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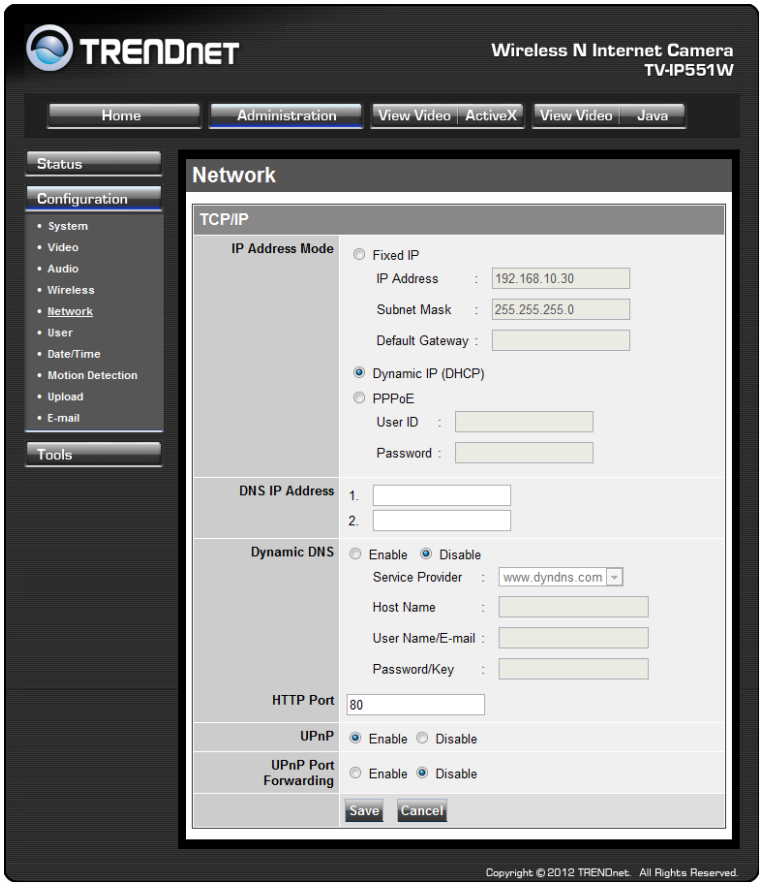
Network

- **IP Address Mode:** Choose a method to assign an IP address to your camera.
  - **Fixed IP** – If you want to assign a static or fixed IP address to the camera, you may do so here. Your network administrator should be able to provide you with the necessary details to complete this section.
  - **Dynamic IP (DHCP)** – Allows a DHCP server to automatically assign the camera a network address.
  - **PPPoE** – If you are using a PPPoE connection, enter your user name and password here
- **Dynamic IP:** Enter the Domain Name Server addresses which translate names to IP addresses.
- **Dynamic DNS:** The Dynamic DNS feature allows you to host a server (e.g. web server, FTP or Game server) using a domain that you own with a dynamically assigned IP address. Many ISPs assign IP addresses dynamically i.e. the IP address changes each time you connect and disconnect. Using a Dynamic DNS service provider, you can connect to your camera no matter what your IP address. Enter the details of your dynamic DNS service provider here.
- **HTTP Port:** You may configure a second HTTP port that will allow you to connect to the camera using a standard web browser. The port can be set to a number other than the default TCP ports 80. A corresponding port must be opened on the router. For example, if the port is changed to 1010, users must type "http://192.168.0.100:1010" instead of only "http://192.168.0.100".
- **uPnP & uPnP Port Forwarding:** Enable these to set your camera as a universal plug n play device on your network.



User

- **User Access Control:** Enable this to allow user accounts to connect to the camera. This option also enable/disable the authentication for direct view.
  For Java mode: http://camera_ip_address/tvjview.htm
  For ActiveX mode: http://camera_ip_address/tvaview.htm
  (eg. http://192.168.10.30/tvaview.htm to view the camera live image directly)
- **Define Users:** You can create new user accounts here. Enter a user name and password and select whether the user is allowed to upload or email an image from the camera.

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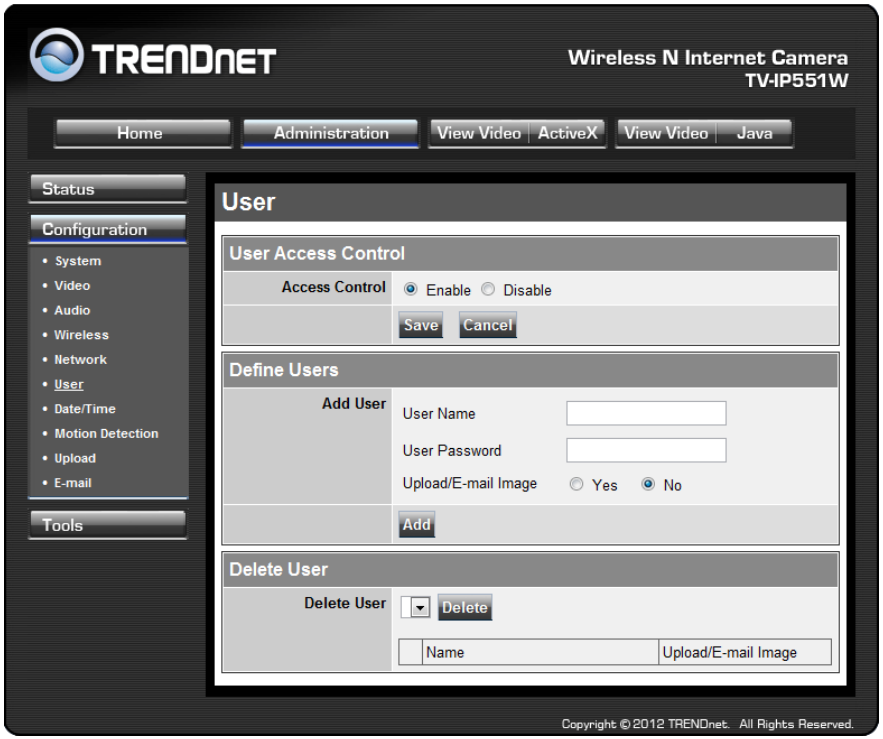
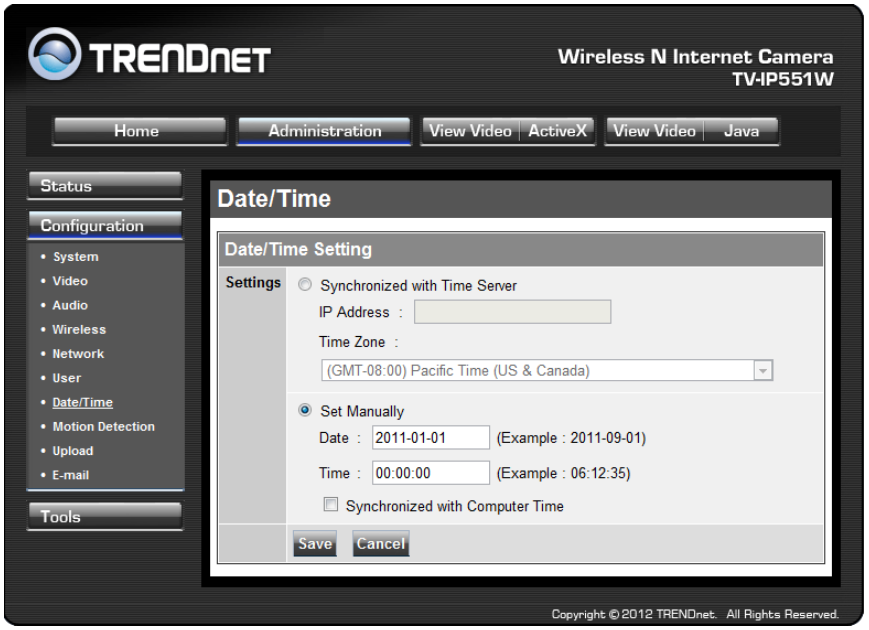
- **Delete User:** Select a user from the drop down menu and click the **Delete** button to remove a user account from the camera.



Date/Time

- **Synchronized with Time Server:** If you have an internet time server or have an NTP server designated on your network, you can specify the IP address of it here. Ensure that you select the correct time zone for the camera also.
- **Set Manually:** If you prefer to manually set the time for the camera, select this mode. You can check the box **Synchronized with Computer Time** to set the time on the camera to be the same as the computer you are on.



Motion Detection

- **Motion Detection:** Select whether to **Enable** or **Disable** motion detection. This will allow your camera to perform different functions when activity has been detected in the parts of the screen that you specify.
- **Sensitivity:** Set a percentage level to determine how sensitive the camera is to activity.
- **Detection Areas:** From the live image shown on this screen, you can left-click on blocks of the grid shown to indicate which parts of the screen you would like to monitor for motion.

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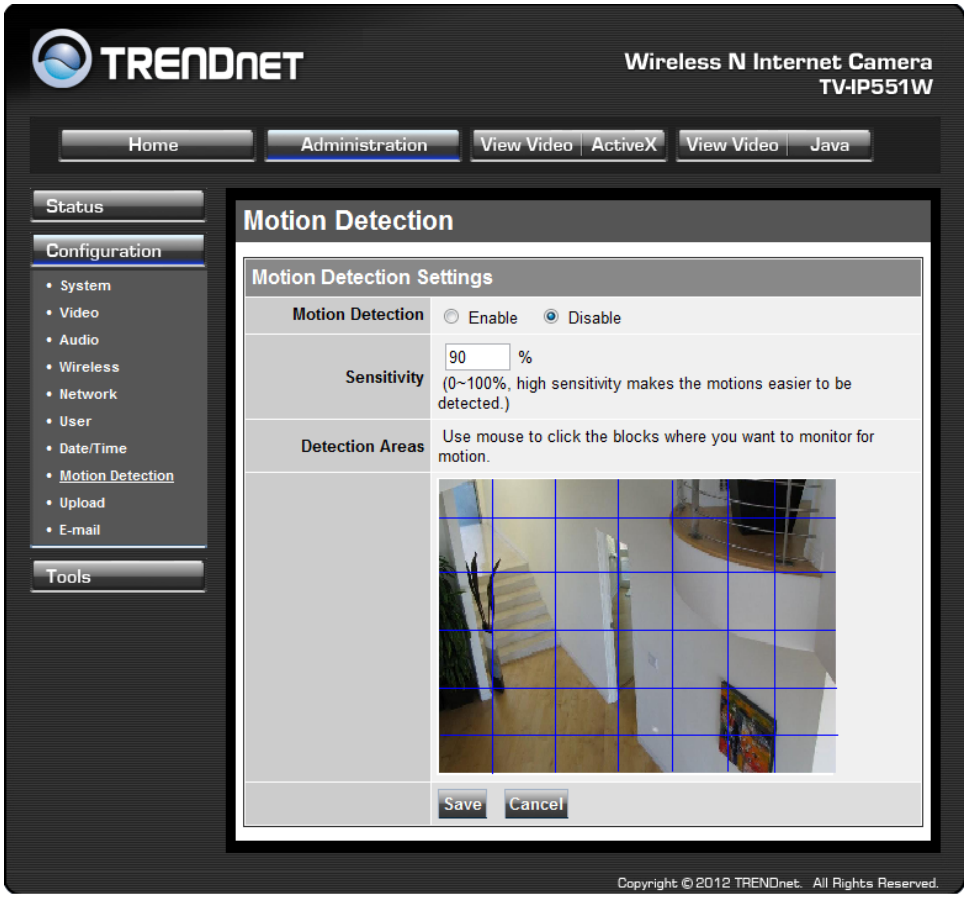

Upload

On this screen you can enter details of an FTP Server that you want to upload images from the camera to.

- **Host Address:** The IP address of the FTP Server
- **Port Number:** The port number to connect to the FTP on, default port is 21.
- **User Name:** The user name of the FTP account.
- **Password:** The password for the user account on the FTP.
- **Directory Path:** The path you want the files to be uploaded to on the FTP.
- **Passive Mode:** If the camera is behind a firewall, you might wish to enable Passive mode to allow the camera to upload the pictures.
- **Time Schedule:** Check **Enable upload image to FTP server** to enable the Upload function.
    - **Always:** Selecting this option allows snapshots to be uploaded to your FTP as soon as you click **Save.**
    - **Schedule:** Selecting this option allows you to configure specific times when you want the snapshots to be uploaded to your FTP server.
    - **Motion Detection:** Selecting this option sets the camera to upload images upon detection of motion.
    - **Manual Operation:** Selecting this option means the user is responsible for taking a snapshot from the camera to upload.
- **Video Frequency:** Users can select in frames per second (1, 2, 3 or auto, in auto this could go to 4). The user can also select a duration for each frame from 1 to 65535 seconds.
- **Base File Name**: Enter the prefix for the filename of each snapshot taken by the camera.
- **File**: If **Overwrite** is selected, only a few images will be constantly refreshed, depending on how many snapshots you choose to have sent. Select **Date/Time Suffix** and the pictures will be named with a date and time also. Select a **Sequence Number Suffix** up to 1024 and all the pictures will be numbered from 1-1024. Up to 1024 pictures can be configured. Picture number 1025 will reset to number 1.

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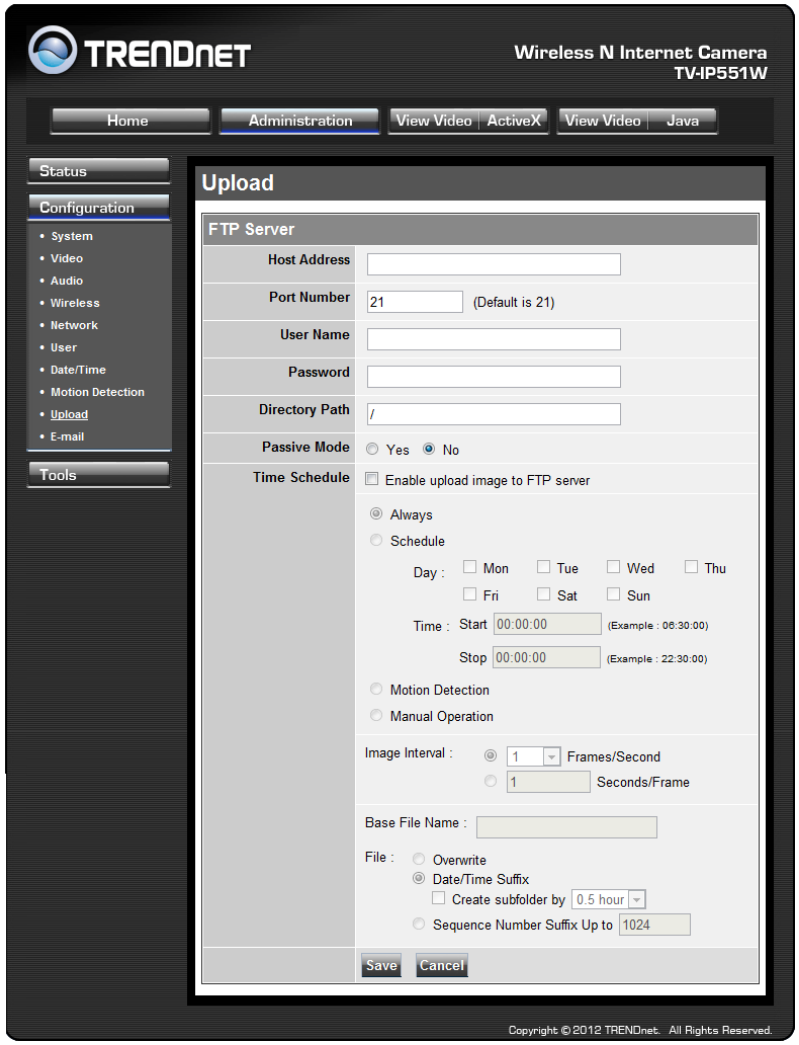

E-mail

This section allows you to configure the email notification settings of your camera.

- **SMTP Server Address:** The domain name or IP address of your external mail server.
- **SMTP Port Number:** The port number of your mail server, usually this is port 25.
- **Sender's Email Address:** The e-mail address of the person sending the camera snapshots.
- **Recipient's E-mail Address:** The e-mail address of the person receiving the camera snapshots.
- **User Name:** The user name of the sender's email account for SMTP authentication.
- **Password:** The password of the sender's account for SMTP authentication.
- **Use SSL-TLSS/STARTTLS:** If your mail server supports SSL-TLSS or STARTTLS, you can select one of these methods to create an encrypted connection to the mail server.
- **Time Schedule:** Check **Enable e-mail image to e-mail account** to enable the time schedule function.
    - **Always:** Selecting this option will allow snapshots to be emailed when you click **Save**.
    - **Schedule:** Selecting this option allows you to configure specific times when you want the snapshots to be emailed.
    - **Motion Detection:** Selecting this option sets the camera to e-mail images upon detection of motion.
    - **Manual Operation:** Selecting this option means the user is responsible for taking a snapshot from the camera to e-mail.

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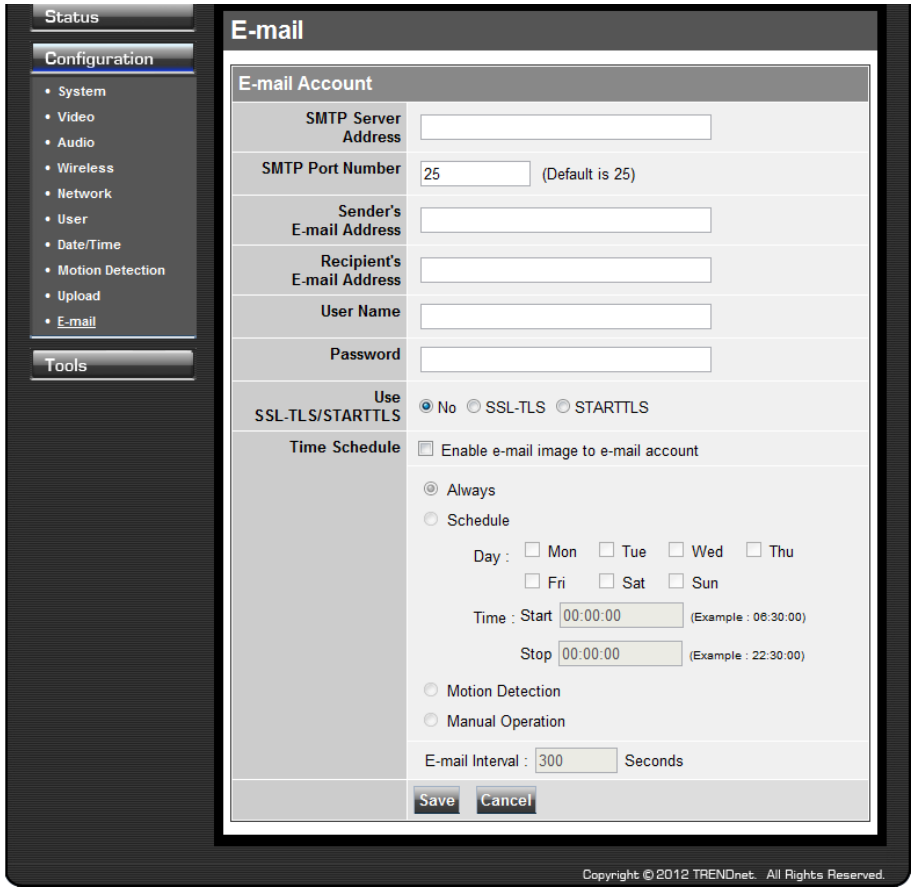
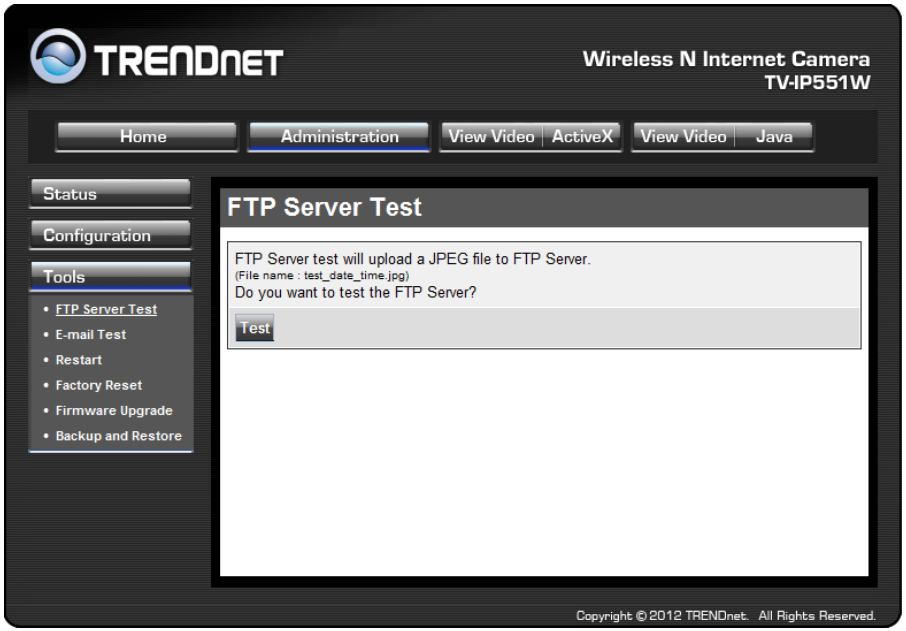


Tools

FTP Server Test

When you have set up the FTP Server in the configuration section, you can use this screen to test that the FTP Server settings are correct. Pressing the **Test** button will make a connection to the FTP Server and upload a file called test_date_time.jpg to the FTP. If the file is not there, you should check that you have entered the FTP details correctly in the configuration section.



E-mail Test

When you have set up an e-mail account in the configuration section, you can use this screen to test that the E-mail settings are correct. Pressing the **Test** button will make the camera send a test e-mail to the address specified in the configuration section. If you do not receive the test e-mail, you should check that you have entered the e-mail details correctly in the configuration section.

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Restart

If you should need to restart the IP camera, you can do this from this screen. Clicking **Yes** will initiate a reboot sequence on the camera. When you restart the camera you will lose your connection to it. Wait 1 minute before attempting to reconnect to the camera so that it has time to go through its boot up sequence. Restarting the camera will retain the configuration settings you have entered.

Factory Reset

If you should need to restore the camera to the factory settings, you can do it from this screen. Clicking **Yes** will initiate a reboot sequence on the camera. When the camera restarts, you will lose your connection to it. The username and password will also both be set back to the default **admin**. Wait 1 minute before attempting to reconnect to the camera so that it has time to go through its boot up sequence.

Note: Factory reset will erase the current configuration settings on the camera. You should back up the settings first if you wish to keep them. See the Backup and Restore section for more information.

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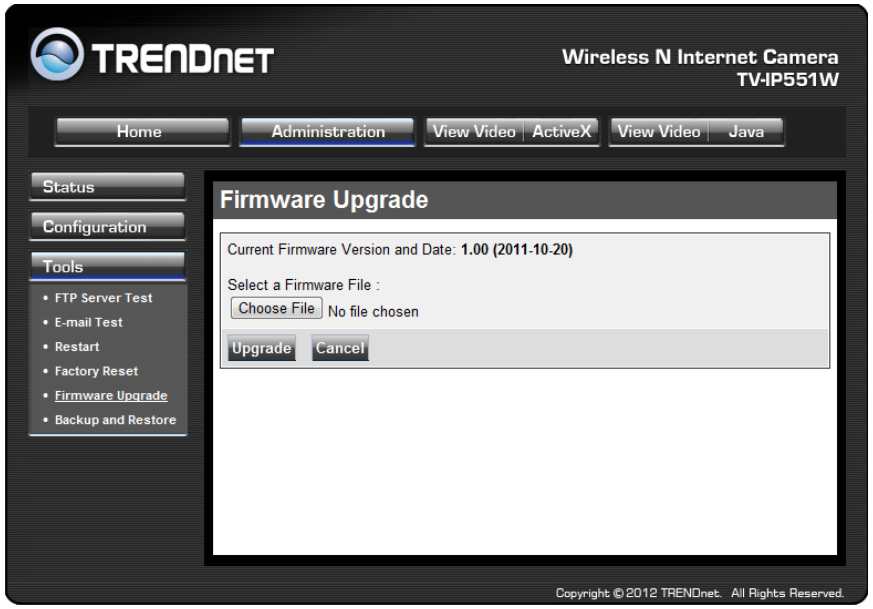
Firmware Upgrade

Click the **Browse** button and locate the firmware file you saved on your computer and choose **Open**. When you are ready, click the **Upgrade** button to begin the firmware upgrade.

Note: Upgrading the firmware is a sensitive process. Be sure that you have the correct firmware for your model of camera and do not disconnect the power during the upgrade process.



Backup and Restore

When you have set up the camera and you are satisfied with the settings, you can backup the settings to a file for future reference. If you should change the settings and want to revert back to the previous settings, you can do so on this page. To backup the configuration, click **Backup** and select a location to save the file, then choose **Save**. To restore settings from a configuration file, click **Browse** and locate the backup configuration file on your hard drive then click **OK**. Click **Restore** to complete the process.

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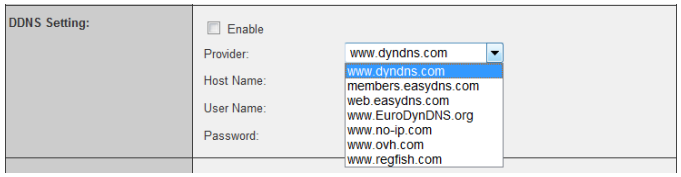
How to setup/access the camera remotely

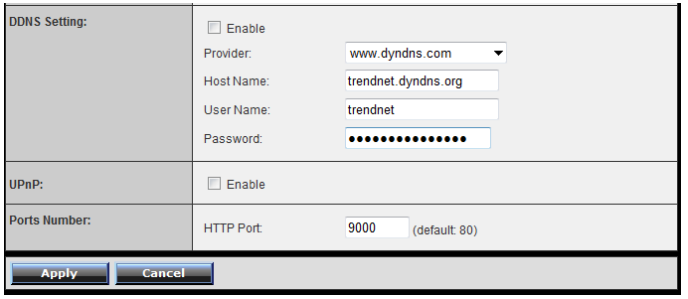
You can either setup the Dynamic DNS connection via camera itself or your home router. An account from any of the listed DDNS providers is required prior to this operation.

Configure DDNS on your Camera

1. Go to Camera's **DDNS Setting** page, click **Enable** to activate the feature. Then select a DDNS provider from the list.

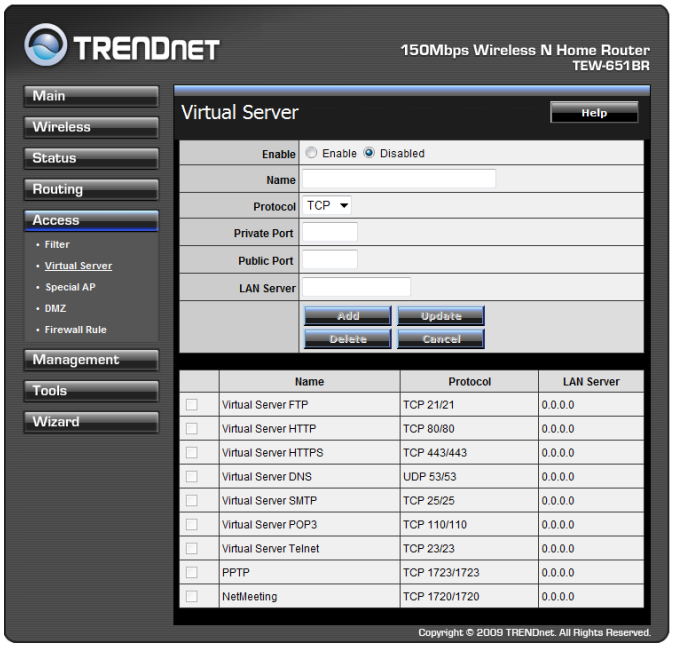


2. Enter your DDNS's the Host Name, User Name and Password.



3. In the **Port Number** section, assign an HTTP port of the camera. The default HTTP Port on the camera is 80. The example shows above is using port number 9000.

4. Open another web browser and go to your Router's Web Configuration page. (In the example, TRENDnet's TEW-651BR Wireless N router is used)



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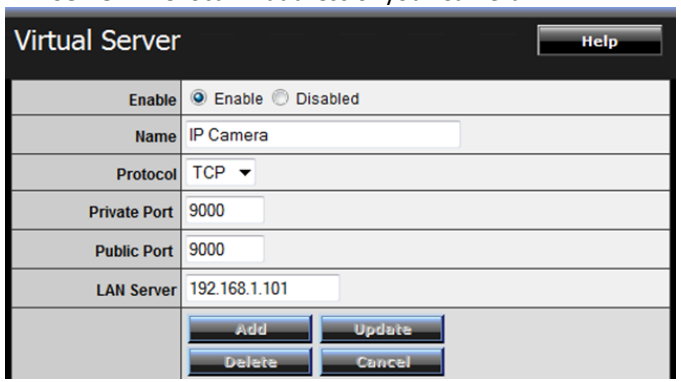
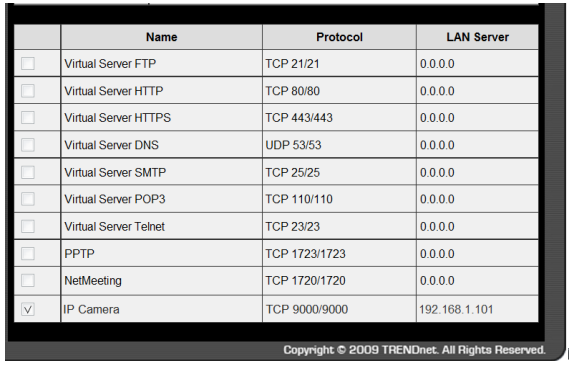
5. Go to **Virtual Server*** section and create a new entry.
   Enable: Click **Enable**
   Name: Enter the application name (eg. CameraName)
   Protocol: Select **TCP**
   Private Port: The HTTP port that you assign on your Camera.
   Public Port: The port used on remote side to access to your Camera.
   LAN Server: The local IP address of your Camera.

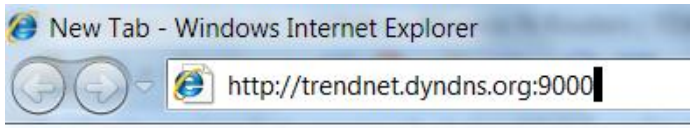


   Then click **Add** to add the application.

   * Please refer to your router's user's manual for detail **Virtual Server** setting. Some router might use **Port Forwarding** or **Special applications** for this function. The setup steps should be very similar.



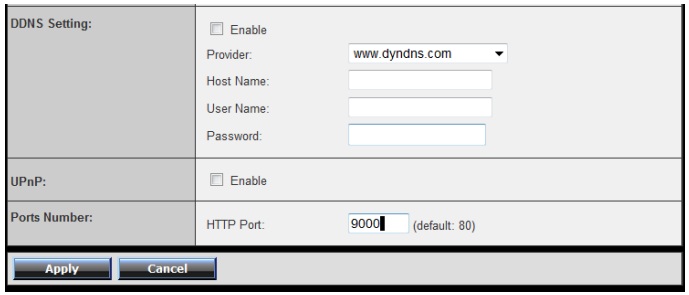
6. Open another web browser and enter your DDNS domain and camera's port number.
   http://yourDomainName:PortNumber



7. Camera's login page will appear.

Configure DDNS on your router

1. Go to Camera's **DDNS → Ports Number** section, assign a HTTP port for your camera and click **Apply**.



2. Login to your router's web configuration page.

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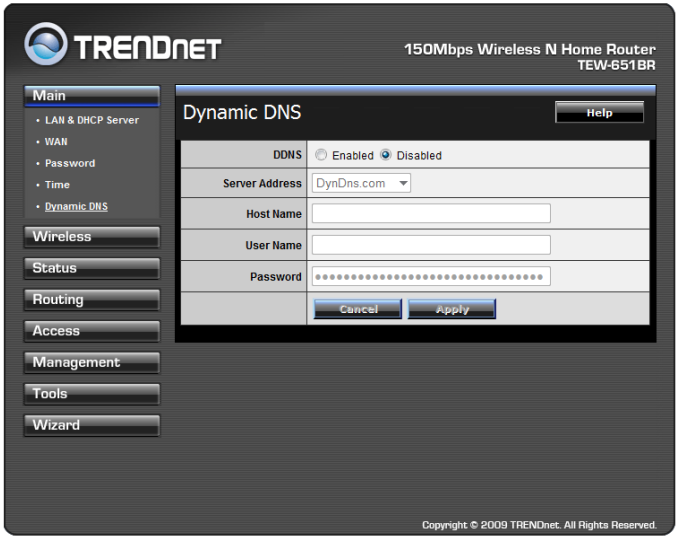
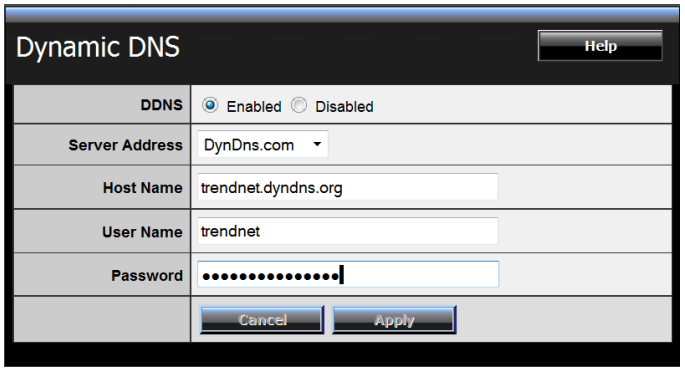
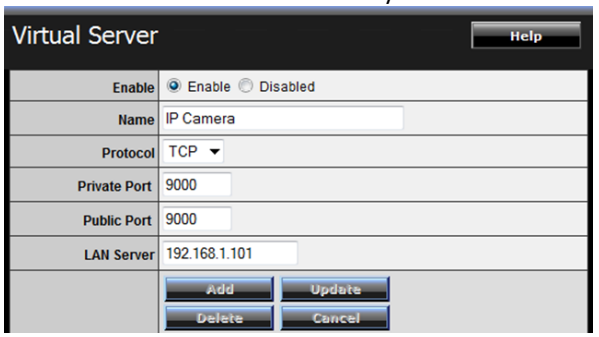
3. Find the **Dynamic DNS** configuration section.



4. Enable DDNS, fill out the following information and then click **Apply**.



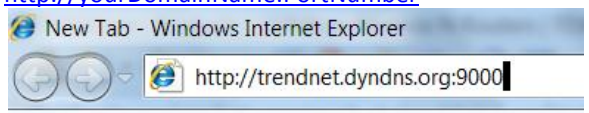
5. Go to **Virtual Server*** section and create a new entry.
   Enable: Click **Enable**
   Name: Enter the application name (eg. Camera Name)
   Protocol: Select **TCP**
   Private Port: The HTTP port that you assign on your Camera.
   Public Port: The port used on remote side to access to your Camera.
   LAN Server: The local IP address of your Camera.



   Click **Add** to add the application.

   * Please refer to your router's user's manual for detail **Virtual Server** setting. Some router might use **Port Forwarding** or **Special applications** for this function. The setup steps should be very similar.

6. Open another web browser and enter your DDNS domain and camera's port number.
   http://yourDomainName:PortNumber



7. The camera login page will appear.

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Technical Specifications

TV-IP551W

Camera	
General	Sensor: 1/5" CMOS Sensor Board Lens Focal Length: 4mm F/No: 1.5 Minimum illumination: 1 lux Focus Depth: 20 cm ~ infinity View: Horizontal: 38 degrees Vertical: 28.7 degrees Diagonal: 46.5 degrees Digital Zoom: 4x
Audio	Built-in omni-directional microphone Sensitivity: -38dB +/- 3dB (5 meters max.) Frequency: 100~20000Hz S/N: >60dB Format: PCM
Hardware	
Network	IEEE 802.3u 10/100Mbps Auto-MDIX Fast Ethernet
LED	Power, Link/Act
WPS Button	Enable WPS connection
Reset Button	Reset to factory default
Power Consumption	Max. 5 watts
Power	Input: 100~240V 50/60Hz 0.2A Output: 5V, 1.2A external power adapter
Dimension	75 x 115 x 30 mm (2.95 x 4.5 x 1.2 in.)
Weight	110 g (3.8 oz)

Temperature	Operating: 0°C ~ 40°C (32°F ~ 104°F) Storage: -15°C ~ 60°C (5°F ~ 140°F)
Humidity	Max. 95% (non-condensing)
Certifications	CE, FCC
Requirement	
Management Interface	Internet Explorer 7.0 or higher Firefox 3.5 or above Safari 4.0 or above
Network Protocols	IPv4, ARP, TCP, UDP, ICMP DHCP Client, NTP Client, DNS Client, DDNS Client, SMTP Client, FTP Client HTTP PPPoE UPnP
Wireless	
Standard	IEEE 802.11b, IEEE 802.11g and IEEE 802.11n
Frequency	2.4 ~ 2.497 GHz ISM band
Modulation	DQPSK, DBPSK, DSSS and CCK
Antenna	Built-in 2dBi antenna
Date Rate	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 150Mbps
Security	64/128-bit WEP, WPA/WPA2-PSK
Output Power	802.11b: 17dBm (typical) 802.11g: 14.5dBm (typical) 802.11n: 14.5dBm (typical)
Receiving Sensitivity	802.11b: -89dBm at 11Mbps 802.11g: -74dBm at 54Mbps 802.11n: -71dBm at 150Mbps
Channels	1~11 (FCC), 1~13(ETSI)
Management	

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Accounts	Up to 64 user accounts
Remote Login	Remote management supported
Backup / Restore	Save/retrieve configuration files
Settings	
Image	Brightness, contrast, saturation, , flip, mirror (horizontal/vertical)
Video Setting	Encoding: MJPEG - Resolution: 640 x 480 (20 fps), 320 x 240 (30 fps), 160 x 120 - Max frame rate: VGA@20fps, QVGA@30fps, QQVGA@30fps - JPEG quality: Very Low, Low, Medium, High, Very High
Snapshot	Trigger event: motion detection Action: send alert email and/or upload to FTP Real time snapshot
Port Settings	HTTP port: 80 (default)
Time	Synchronize with NTP server or set time / date manually

TV-IP551WI

Camera	
General	Sensor: 1/5" CMOS Sensor Board Lens Focal Length: 4 mm F/No: 1.5 Minimum illumination: 0 lux Focus Depth: 20 cm ~ infinity View: Horizontal: 38.0 degrees Vertical: 28.7 degrees Diagonal: 46.5 degrees Digital Zoom: 4x
Audio	Built-in omni-directional microphone Sensitivity: -38dB +/- 3dB (5 meters max.)
	Frequency: 100~20000Hz S/N: >60dB Format: PCM
Day/Night	Built-in ICR Night vision (IR) up to 7.5 meters
Hardware	
Network	IEEE 802.3u 10/100Mbps Auto-MDIX Fast Ethernet
LED	Power, Link/Act
WPS Button	Enable WPS connection
Reset Button	Reset to factory default
Power Consumption	Max. 5 Watts
Power	Input: 100~240V 50/60Hz 0.2A Output**:** 5V, 1.2A external power adapter
Dimension	75 x 115 x 30mm (2.95 x 4.5 x 1.2 in.)
Weight	110 g (3.8 oz)
Temperature	Operating: 0°C ~ 40°C (32°F ~ 104°F) Storage: -15°C ~ 60°C (5°F ~ 140°F)
Humidity	Max. 95% (non-condensing)
Certifications	CE, FCC
Requirement	
Management Interface	Internet Explorer 7.0 or higher Firefox 3.5 or above Safari 4.0 or above
Network Protocols	IPv4, ARP, TCP, UDP, ICMP DHCP Client, NTP Client, DNS Client, DDNS Client, SMTP Client, FTP Client HTTP PPPoE UPnP

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Wireless	
Standard	IEEE 802.11b, IEEE 802.11g and IEEE 802.11n
Frequency	2.4 ~ 2.497 GHz ISM band
Modulation	DQPSK, DBPSK, DSSS, and CCK
Antenna	Built-in 2dBi antenna
Date Rate	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 150Mbps
Security	64/128-bit WEP, WPA/WPA2-PSK
Output Power	802.11b: 17dBm (typical) 802.11g: 14.5dBm (typical) 802.11n: 14.5dBm (typical)
Receiving Sensitivity	802.11b: -89dBm at 11Mbps 802.11g: -74dBm at 54Mbps 802.11n: -71dBm at 150Mbps
Channels	1~11 (FCC), 1~13(ETSI)
Management	
Accounts	Up to 64 user accounts
Remote Login	Remote management supported
Backup / Restore	Save/retrieve configuration files
Settings	
Image	Brightness, contrast, saturation, sharpness, white balance, flip, mirror (horizontal/vertical), black & white, indoor, outdoor, schedule mode
Video Setting	Encoding: MJPEG - Resolution: 640 x 480 , 320 x 240 , 160 x 120 - Max frame rate: VGA@20fps, QVGA@30fps, QQVGA@30fps - JPEG quality: Very Low, Low, Medium, High, Very High
Snapshot	Trigger event: motion detection Action: send alert email and/or upload to FTP
	Real time snapshot
Port Settings	HTTP port: 80 (default)
Time	Synchronize with NTP server or set time / date manually

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Troubleshooting

1. **The Power LED and Ethernet Activity LED do not light up.**

   The power supply or camera might be faulty. Check that the connection to both the power source and the terminal on the back of the camera are secure and that you are using the provided power supply. If the camera is otherwise functioning correctly, the LEDs might have been disabled in the configuration. See the section of this guide on Configuration of System settings.

2. **The camera can't be accessed or access is slow**

   There might be a problem with the network cable. To confirm that the cables are working, ping the address of a known device on the network. If the cabling is OK and your network is reachable, you should receive a reply similar to the following (…bytes = 32 time = 2 ms).

   Another possible problem may be that the network device such as a hub or switch utilized by the Network Camera is not functioning properly. Please confirm the power for the devices are well connected and functioning properly.

3. **The camera can be accessed locally but not remotely**

   This might be caused by a firewall. Check the Internet firewall with your system administrator. The firewall may need to have some settings changed in order for the Network Camera to be accessible outside your local LAN. For more information, please refer to the section about installing your camera behind a router.

   Make sure that the Network Camera isn't conflicting with any Web server you may have running on your network.

   The default router setting might be a possible reason. Check that the configuration of the router settings allow the Network Camera to be accessed outside your local LAN.

4. **White vertical lines appear on the image from the camera**

   It could be that the CMOS sensor (a square panel situated behind the lens that measures the light signals and changes it into a digital format so your computer can present it into an image that you are familiar with) has become overloaded when it has been exposed to bright lights such as direct exposure to sunlight or halogen lights. Reposition the Network Camera into a more shaded area immediately as prolonged exposure to bright lights will damage the CMOS sensor.

5. **The camera images are 'noisy'**

   Often if the camera is in a low-light environment, the images can contain a lot of noise. Try enabling Night mode and see if that improves the image quality. Otherwise, try to use the camera in a location where there is a bit more light.

6. **The camera images are of poor quality.**

   Make sure that your computer's display properties are set to at least 16-bit color. Using 16 or 256 colors on your computer will produce dithering artifacts in the image, making the image look as if it is of poor quality.

   Try also adjusting the brightness, contrast, saturation, light frequency and anti-flicker controls on the Video Settings under the Configuration menu. You may also consider adjusting the resolution of the camera and the compression rate to improve the image.

7. **Video can't be viewed through the web browser interface.**

   ActiveX might be disabled. If you are viewing the images from Internet Explorer make sure ActiveX has been enabled in the Internet Options menu. You may also need to change the security settings on your browser to allow the ActiveX plug-in to be installed.

   If you are using Internet Explorer with a version number lower than 6, then you will need to upgrade your Web browser software in order to view the streaming video transmitted by the Network Camera. Try also viewing the video using Java. Ensure that you have the latest version of Java installed before you do. Go to www.java.com for more information.

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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

EN 60950-1: 2006 +A11:2009

Safety of Information Technology Equipment

EN 62311: 2008

Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz-300 GHz)

(IEC 62311:2007 (Modified))

EN 300 328 V1.7.1: (2006-10)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 301 489-1 V1.8.1: (2008-04)

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

EN 301 489-17 V2.1.1 (2009-05)

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

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cs Česky [Czech]	TRENDnet tímto prohlašuje, že tento TV-IP551W / TV-IP551WI je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede TRENDnet erklærer herved, at følgende udstyr TV-IP551W / TV-IP551WI overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt TRENDnet, dass sich das Gerät TV-IP551W / TV-IP551WI in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab TRENDnet seadme TV-IP551W / TV-IP551WI vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, TRENDnet, declares that this TV-IP551W / TV-IP551WI is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
es Español [Spanish]	Por medio de la presente TRENDnet declara que el TV-IP551W / TV-IP551WI cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ TRENDnet ΔΗΛΩΝΕΙ ΟΤΙ TV-IP551W / TV-IP551WI ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente TRENDnet déclare que l'appareil TV-IP551W / TV-IP551WI est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
it Italiano [Italian]	Con la presente TRENDnet dichiara che questo TV-IP551W / TV-IP551WI è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo TRENDnet deklarē, ka TV-IP551W / TV-IP551WI atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo TRENDnet deklaruoja, kad šis TV-IP551W / TV-IP551WI atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
nl Nederlands [Dutch]	Hierbij verklaart TRENDnet dat het toestel TV-IP551W / TV-IP551WI in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
mt Malti [Maltese]	Hawnhekk, TRENDnet, jiddikjara li dan TV-IP551W / TV-IP551WI jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
hu Magyar [Hungarian]	Alulírott, TRENDnet nyilatkozom, hogy a TV-IP551W / TV-IP551WI megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
pl Polski [Polish]	Niniejszym TRENDnet oświadcza, że TV-IP551W / TV-IP551WI jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
pt Português [Portuguese]	TRENDnet declara que este TV-IP551W / TV-IP551WI está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
sl Slovensko [Slovenian]	TRENDnet izjavlja, da je ta TV-IP551W / TV-IP551WI v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	TRENDnet týmto vyhlasuje, že TV-IP551W / TV-IP551WI spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi Suomi [Finnish]	TRENDnet vakuuttaa täten että TV-IP551W / TV-IP551WI tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
sv Svenska [Swedish]	Härmed intygar TRENDnet att denna TV-IP551W / TV-IP551WI står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

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Limited Warranty

TRENDnet warrants its products against defects in material and workmanship, under normal use and service, for the following lengths of time from the date of purchase.

TV-IP551W / TV-IP551WI – 3 Years Warranty

AC/DC Power Adapter, Cooling Fan, and Power Supply carry 1 year warranty.

If a product does not operate as warranted during the applicable warranty period, TRENDnet shall reserve the right, at its expense, to repair or replace the defective product or part and deliver an equivalent product or part to the customer. The repair/replacement unit's warranty continues from the original date of purchase. All products that are replaced become the property of TRENDnet. Replacement products may be new or reconditioned. TRENDnet does not issue refunds or credit. Please contact the point-of-purchase for their return policies.

TRENDnet shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to TRENDnet pursuant to any warranty.

There are no user serviceable parts inside the product. Do not remove or attempt to service the product by any unauthorized service center. This warranty is voided if (i) the product has been modified or repaired by any unauthorized service center, (ii) the product was subject to accident, abuse, or improper use (iii) the product was subject to conditions more severe than those specified in the manual.

Warranty service may be obtained by contacting TRENDnet within the applicable warranty period and providing a copy of the dated proof of the purchase. Upon proper submission of required documentation a Return Material Authorization (RMA) number will be issued. An RMA number is required in order to initiate warranty service support for all TRENDnet products. Products that are sent to TRENDnet for RMA service must have the RMA number marked on the outside of return packages and sent to TRENDnet prepaid, insured and packaged appropriately for safe shipment. Customers shipping from outside of the USA and Canada are responsible for return shipping fees. Customers shipping from outside of the USA are responsible for custom charges, including but not limited to, duty, tax, and other fees.

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